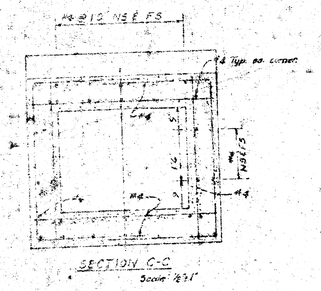
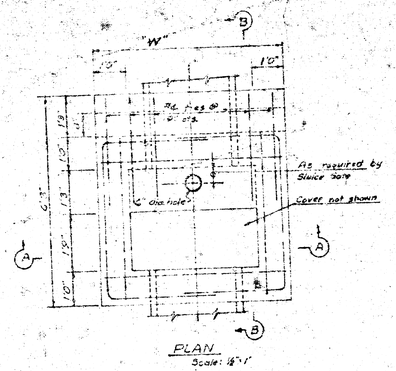
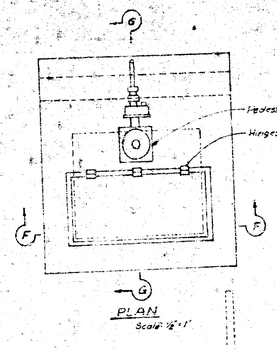
SLUICE GATE STRUCTURES

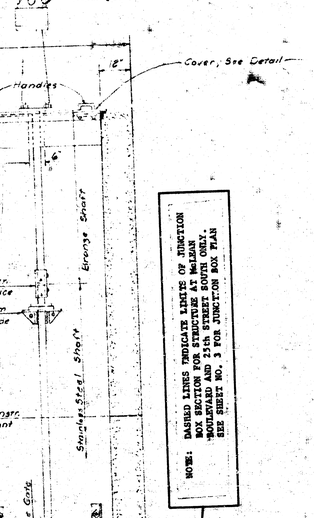
LOCATION	SIZE	"H"	"W"
31st St. So. & Washington	54"	14.79'	7'8"
Hydraulic (N. of Rose Arthur)	24"	14.36'	6'1"
31st St. So. & Broadway	30"	13.83'	6'1"
Nelson & 25th St. So. #	48"	13.33'	7'1"
Erie (N. of Macfarlane)	36"	16.99'	6'1"

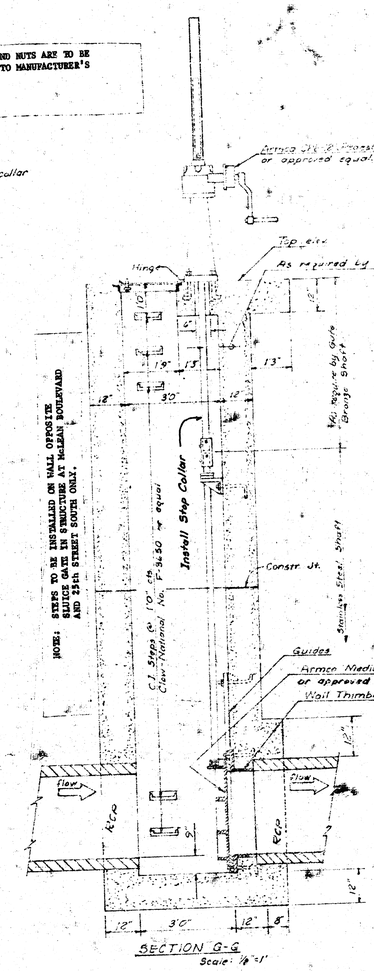




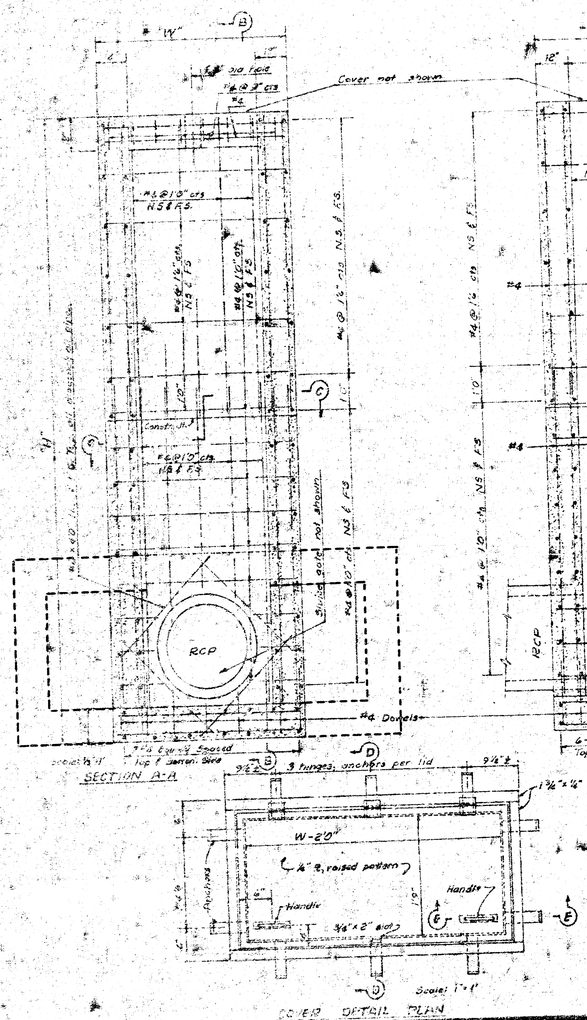


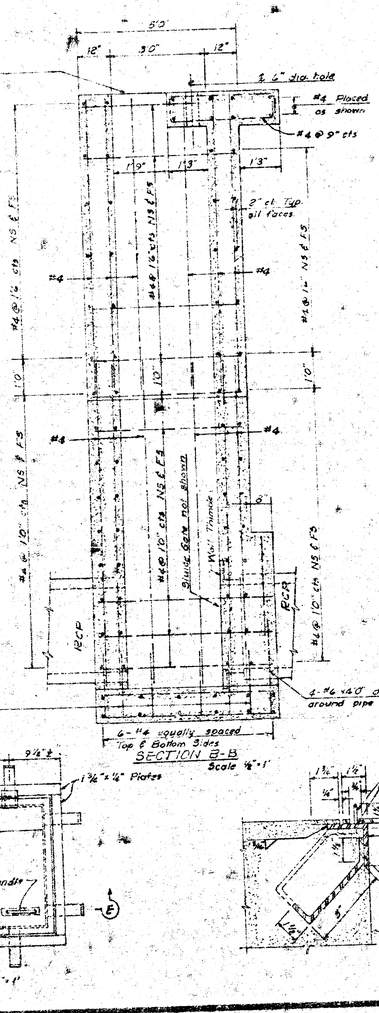
NOTE: ANCHOR BOLTS, WASHERS, AND NUTS ARE TO BE FURNISHED WHICH CONFORM TO MANUFACTURER'S RECOMMENDATIONS.

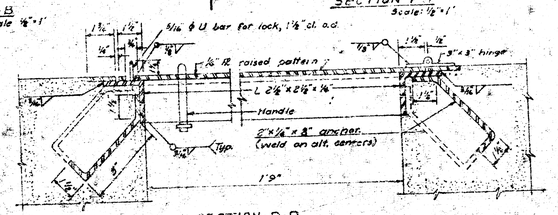


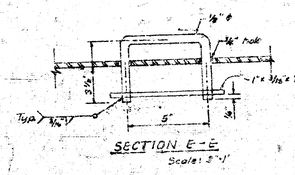


Sluice Gates to be installed as directed by the manufacturer. See Sheet 4 for installation and adjustment of lift, stem and guides









As built 6-22-76

SLUICE GATE STRUCTURE

SLUICE GATES, SCHEDULE CONSTRUCTION, STORM SEWER IMPROVEMENTS @ STAT
STORM SEWER & MANHOLES, MCFARLANE
DRIVE & MACARTHUR, MCFARLANE &
ERIE, 31st STREET SOUTH & BROADWAY,
AND 25th STREET SOUTH & NELSON

CITY OF WICHITA, KANSAS
R. W. LINN, CITY ENGINEER

Project No. DBKA 574087

DATE: _____ Sheet 1 of 4

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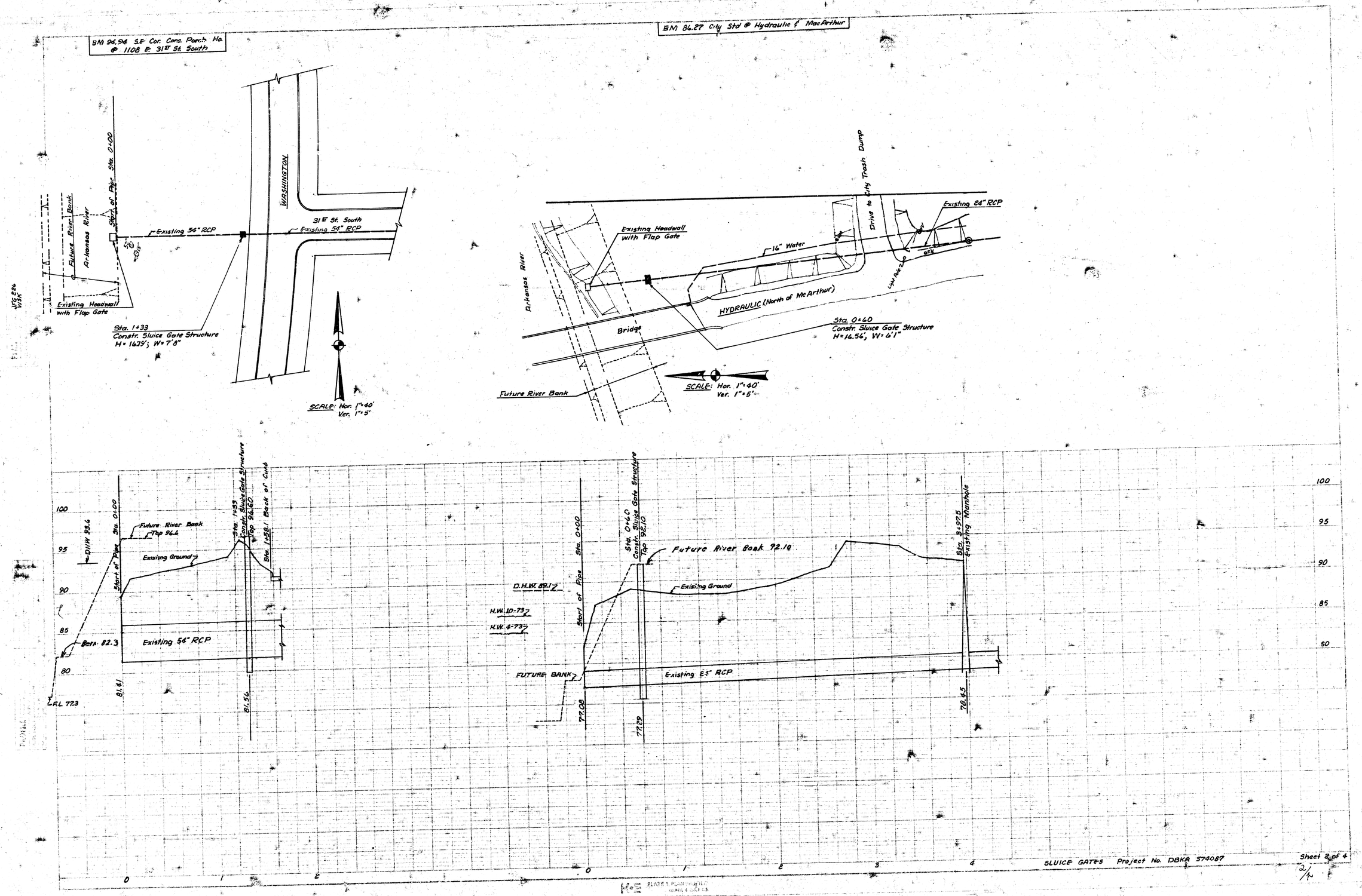

SLUICE GATES Project No. DBKA 574087

Sheet 2 of 4

2/4

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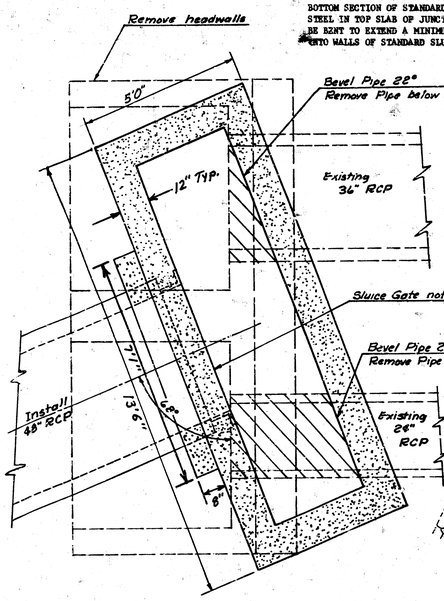
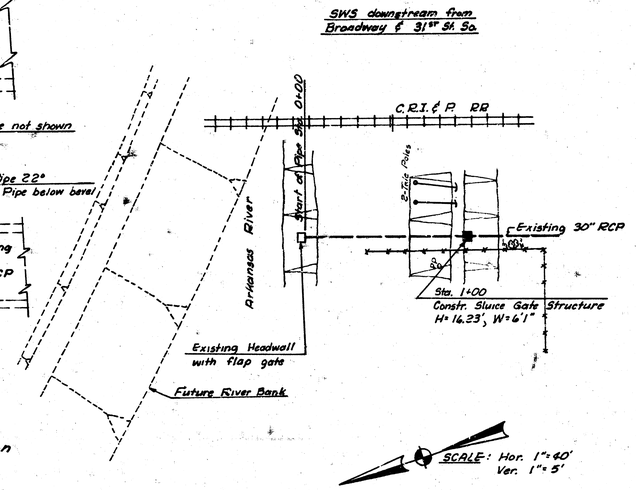
NOTE: REINFORCING STEEL IN JUNCTION BOX SECTION TO CONFORM WITH STEEL PATTERN AND SPACING IN BOTTOM SECTION OF STANDARD SLUICE GATE STRUCTURE. STEEL IN TOP SLAB OF JUNCTION BOX SECTION SHALL BE BENT TO EXTEND A MINIMUM OF TWO (2) FEET INTO WALLS OF STANDARD SLUICE GATE SECTION.

BM 94.72 SE Cor. Headwall to pipe, S. Side Dike, 100'± West of RR R/W.

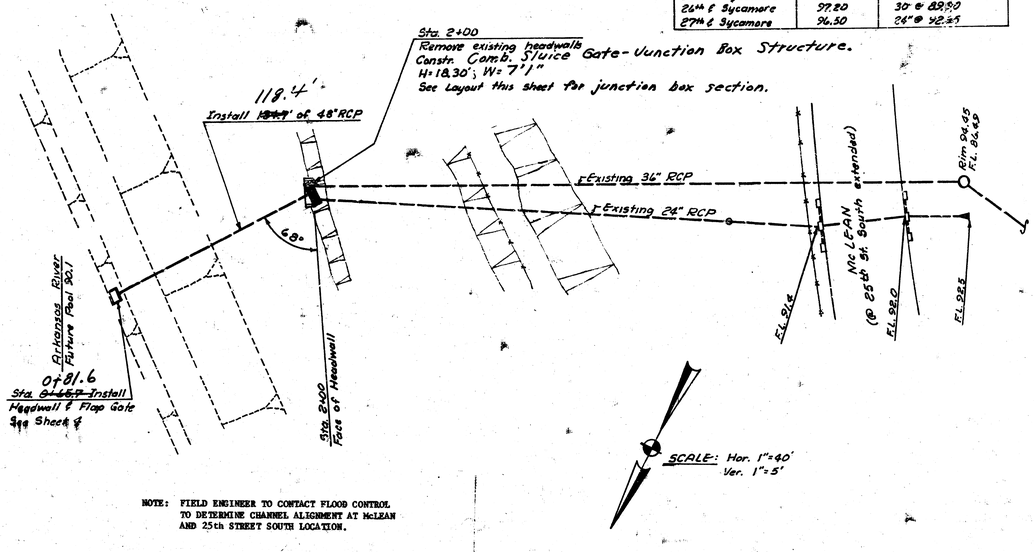
B.M. 93.03 "x" cut on S.W. cor. Headwall SWS outfall W. Bank River, E.& McLean @ 25th So.



SECTION LAYOUT OF Junction Box Section
At McLean & 25th St. South Extended
Scale: 1/2"=1'0"



SCALE: Hor. 1"=40'
Ver. 1"=5'

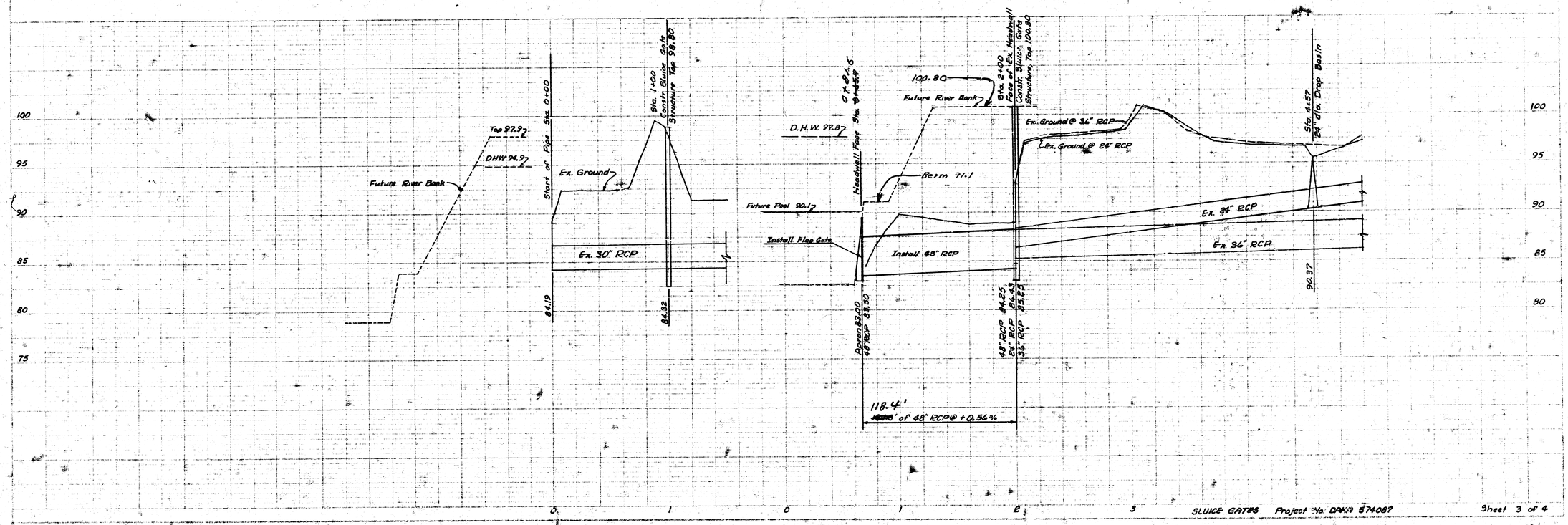


UPSTREAM DATA

LOCATION	LOW CURB	SEWER FLOWLINE
25th & Exchange	96.50	36" @ 87.33
25th & Sycamore	97.40	33"± 88.59
26th & Sycamore	97.20	30"± 89.80
27th & Sycamore	96.50	24"@ 92.23

SCALE: Hor. 1"=40'
Ver. 1"=5'

NOTE: FIELD ENGINEER TO CONTACT FLOOD CONTROL TO DETERMINE CHANNEL ALIGNMENT AT McLEAN AND 25th STREET SOUTH LOCATION.



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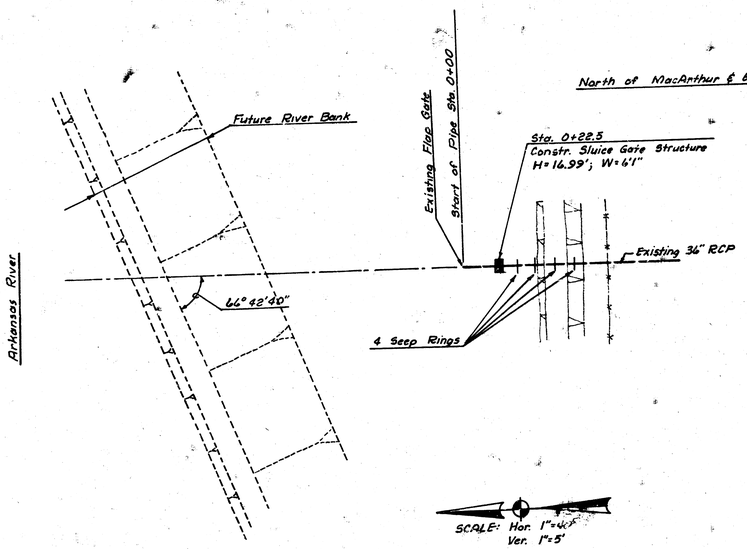
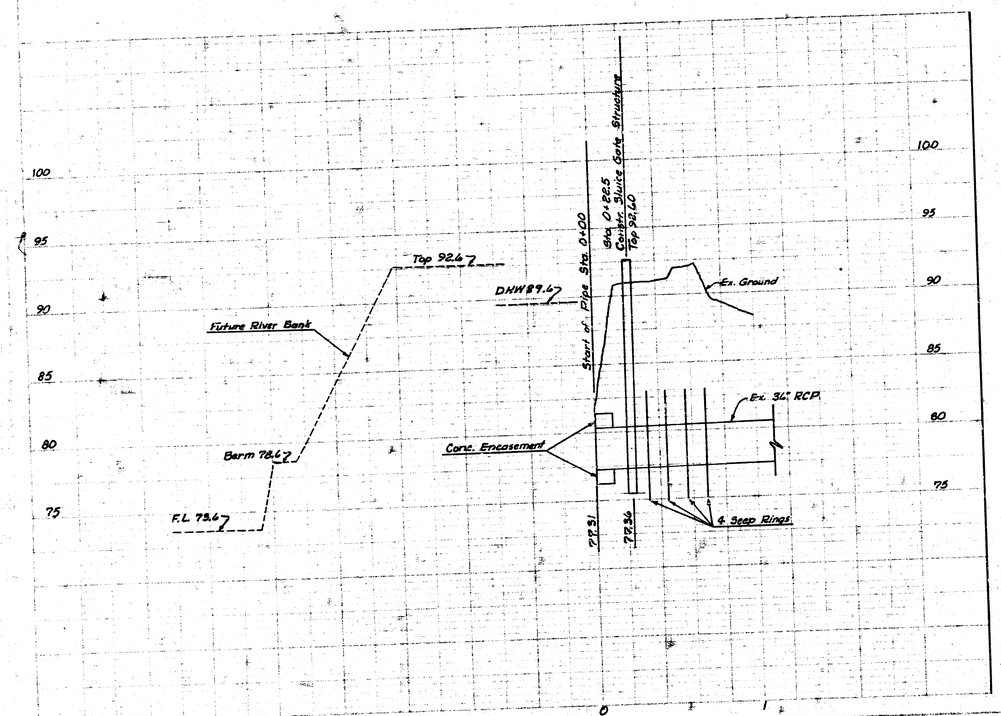
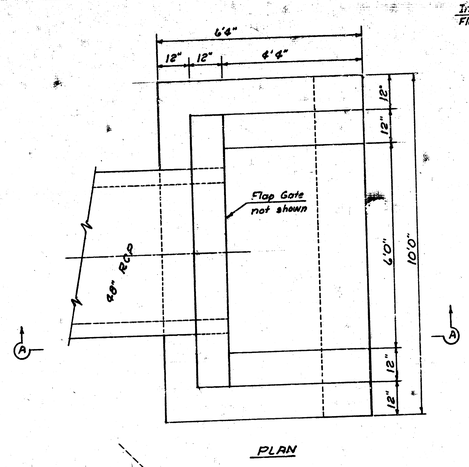
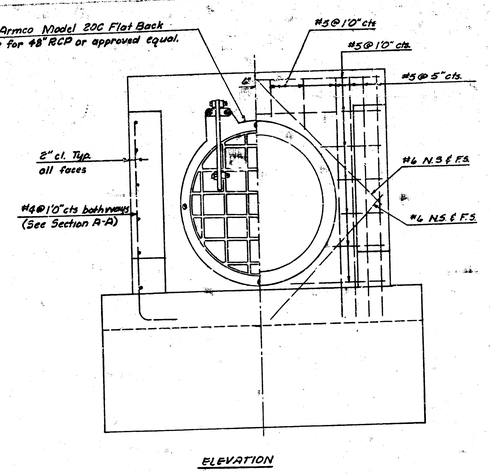
B.M. 87.55 R.R. Spike N. side large Elm tree on S.W. cor. of MacArthur & Ellis.





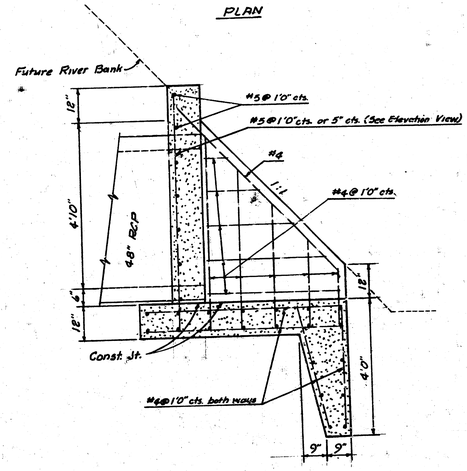


PLAN



ELEVATION

HEADWALL
Scale: ½"=1'0"



SECTION A-A

INSTALLATION and ADJUSTMENT OF LIFT, STEM and GUIDES

1. Place anchor bolts for lift and stem guides as shown on installation drawing. Check for proper alignment of lift, stem guides and gate.

2. Provide opening with adequate clearance in lift platform for gate stem (and splice where installation drawing indicated it will enter into hole in lift platform).

3. Pour concrete as required. Remove forms.

4. When more than one gate is to be installed stems may be of different diameters, lengths, etc. Stems are marked and/or tagged for each gate installation. Separate the stems per individual gate installation. CAUTION: Extreme care must be taken in handling and installing threaded stems. Leave protective wrapping on threaded section until stem is installed. Nicks or burrs will damage threads in the lift nut.

5. The stem block was attached to the bottom section of stem for shipment. Loosen the set screw through this block and remove the block.

6. Insert stem block in gate slide pocket. Be sure the set screw is exposed or pointing toward you.

7. Stems may be in more than one piece both to facilitate shipment and installation. If two or more pieces are furnished for an installation, they must be installed in their proper order from bottom to top to place splices in correct location so that they won't interfere with the stem guides when the gate is opened or closed. The ends of each stem section and connecting components, are match marked to insure installation in the correct location.

Lower bottom section of stem into place through the hole of the gate slide and screw it into the stem block. With the set screw removed from the block, turn the stem into the block until set screw hole is properly aligned.

8. CAUTION: Immediately insert the set screw and tighten to lock bottom section of the stem to the block. (Set screw is omitted on non-rising stem gates as the turning motion is between the block and the stem.)

9. Place succeeding stem section. Double check shop marking of sections to make sure each is in its proper location. Join together with splices as provided.

CAUTION: Insert all bolts, washers, or keys in each stem splice immediately after stem sections are installed and aligned. Failure to take this safety precaution may cause one section to be disconnected from another when the gate is operated. Breakage of gate parts or serious injury to personnel might result.

10. The lifting device was shipped with a plastic plug in the top of the top hole to protect the threads in the lift nut. Remove this plug and carefully clean the interior threads of the nut. Since any foreign material in these threads may cause damage to them and make the gate harder to operate, each threaded nut must be carefully swabbed out even though it appears to be clean.

Electrically operated lifting devices have threaded nuts match marked to fit threaded stems. These marks appear on the top of the lift nut and the top of the threaded stem. These are further identified by a tag attached to the electric lift to show Armco drawing numbers. Make certain that these matching parts are used together to insure ease of installation and avoid possible service problems.

11. Remove protective wrapping from the threaded section of the stem and thoroughly clean of all foreign material.

12. The top section of the stem may be threaded into the lift before or after the last section of stem is in place. When starting threaded stem into bottom of lift nut, care must be taken to avoid damage to the threads. Rough handling may result in damage to the bottom edge of the threaded lift nut and prevent the stem from being screwed into the lift nut freely. When all parts are thoroughly cleaned, the threaded lift nut will turn onto the threaded stem with very little effort. Hold lift to prevent its rotation. Turn the handwheel or crank to lower the pedestal onto its anchor bolts.

13. By use of a pressure grease gun, apply lubricant to the stem through the fitting in the adaptor between the top of the pedestal and the gear housing.

14. By use of shims, double nuts on anchors, or other leveling devices under the base of the lift, align center line of lift nut until it is parallel with the center line of the stem. Snug up nuts on anchors uniformly.

15. The crank should be able to be turned freely by two or three turns in each direction until the clearance between the top or bottom of the stem block in the gate slide is taken up. If there is any binding during the operation of the lift with the slight vertical movement of the gate slide, stem alignment should be checked. Slight misalignment will cause undue wear to the threaded lift nut. When binding is not caused by misalignment, recheck to make certain all threads on stem and in lift nut are clean.

16. Place two-piece stem guide collars around the stem above each bracket. Place bolts through the projection of the bracket and the ends of the collars. Do not tighten.

CAUTION: Washers are not supplied and should not be used as they may allow the collar to slip on the bracket after it is locked in place.

17. Grout under the lift (if required). After grout has set, tighten the anchor bolts uniformly.

18. CAUTION: Before opening the gate, clean all grout, cement or other foreign material from the top of the gate. Also recheck projection of anchors or studs across top of the gate opening. Excess bolt projection will damage the top bronze seating face on the slide as it is opened.

19. Turn lift or handwheel to open the gate, until gate slide is pulled from its wedges. The stem is now in tension and should be straight. Check to make certain that stem is straight. Beginning at the bottom, make final alignment of stem if required and tighten nuts on bolts holding collars to the guide bracket.

20. Move the gate to its fully opened position. Apply grease to the stem through the fitting in the adaptor at maximum intervals of gate movement of 5 or 6 inches.

21. Place stop collar (if used) against the upward stop. Mark stem with set screw. Side collar out of position and spot drill stem ¼-inch deep. Reposition collar and tighten all fasteners securely.

22. Lower the gate to its fully closed position and check wedges and seating faces as described under final gate adjustment.

23. Run stop nut down on the top of the projecting threaded stem until it makes firm contact with the top of the lift nut. (See illustration.) Tighten the set screws through the stop nut to hold it in place.



24. Install stem cover, indicator, etc., as required. (Separate installation information is furnished.)

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